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ABSTRACT

This report provides a record of student achievement for the State of New York in the 1984-85 school year. It brings together a variety of achievement indicators with a clear focus on knowledge and higher-order skills. Three types of achievement data are presented. One consists of scores obtained on New York State (NYS) tests. These scores may be used to analyze achievement trends over a period of years or to compare schools or school districts within the State. Included in this category are the Pupil Evaluation Program tests, the Regents competency tests, and the Regents examinations. In addition to State test results, selected graduation data are also provided. The second type of data source is the National Assessment of Educational Progress. The third source is a by-product of national programs that identify outstanding students. These programs permit comparisons between NYS students and students in other states or in the United States as a whole. Two programs of the College Entrance Examination Board--the Scholastic Aptitude Test and the achievement tests--provide this data. Data are also obtained from the Advanced Placement Program, the National Merit scholarship competition, and the Westinghouse Science Talent Search. (PN)

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STUDENT ACHIEVEMENT IN NEW YORK STATE 1984-85

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January 1986

The University of the State of New York
THE STATE EDUCATION DEPARTMENT
Division of Educational Testing
Albany, New York 12234

TM 010 193

Student Achievement in New York State

1984-85

The University of the State of New York
The State Education Department
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January 1986

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STUDENT ACHIEVEMENT IN NEW YORK STATE: 1984-85

As part of their far-reaching Action Plan to strengthen education in New York State, the Regents for the first time in 1985 required all local school districts and non-public schools to make a full public disclosure of how well students in each school were performing on a series of State tests which measure achievement. The reports, which must be made no later than December 15 of each year, are known as the Comprehensive Assessment Reports.

The reports provide a public record of accountability for local education results.

The following report is designed to provide a similar record of student achievement for the State as a whole. It brings together a variety of achievement indicators with a clear focus on knowledge and higher-order skills.

Three kinds of achievement data are available. One consists of scores obtained on New York State tests. These scores may be used to analyze achievement trends over a period of years or to compare schools or school districts within New York State. Included in this category are the Pupil Evaluation Program (PEP) tests, the Regents competency tests, and the Regents examinations. In addition to State test results, selected graduation data are also provided.

The second is the result of New York's participation in a "concurrent assessment" with the National Assessment of Educational Progress. New York was the first state in the nation to pursue a concurrent assessment, made available for the first time during the 1983-84 school year. Both reading and writing were assessed, but only reading results have thus far been released by the National Assessment staff.

The third is a by-product of national programs that identify outstanding pupils. These programs permit comparisons between New York State pupils and pupils in other states or in the United States as a whole. Two programs of the College Entrance Examination Board – the Scholastic Aptitude Tests (SAT) and the achievement tests – provide the best data of this type. Of more limited usefulness are the data obtained from the Advanced Placement Program, the National Merit scholarship competition, and the Westinghouse Science Talent Search.

State Testing Programs

Pupil Evaluation Program

The Pupil Evaluation Program was initiated in 1965 to provide data for use in planning, managing, and evaluating educational programs at both the State and local levels. With the advent of the Regents competency testing program, PEP test scores assumed new importance, because pupils scoring below a designated point – the State Reference Point – must be given remediation.

During 1984-85, the program involved the administration of criterion-referenced reading and mathematics tests to pupils completing grades 3 and 6 and the administration of a writing test to pupils completing grade 5. The tests were administered in all public and nonpublic schools containing grades 3, 5, or 6 in May 1985. Schools reported their scores to the Department, and the Department summarized the data for inclusion in the Comprehensive Assessment Reports.

Table 1 indicates the percentages of pupils scoring above the State Reference Points when the PEP tests were administered in 1983, 1984, and 1985. The data are arranged by type of school. The "Large City" districts are Albany, Buffalo, Rochester, Syracuse, and Yonkers. "Village-Suburban" districts are all village school districts and those central districts with an enrollment of more than 2,500 pupils. The table shows improvement between 1983 and 1985 in all but the sixth-grade reading test results.

Regents Examinations

For more than a century, Regents examinations have been a hallmark of high school education in New York State. Examinations are provided in 21 subjects, and more than one million papers are written during the January, June, and August examination periods. About sixty percent of the pupils in grades 9-12 take at least one Regents examination in a typical school year.

Regents examinations serve a number of purposes. They establish and maintain standards in the most-commonly studied high school subjects. They provide teachers with valid and reliable final examinations. They serve as good predictors of success in postsec-

Table 1: Percentages of Pupils Scoring Above State Reference Points on PEP Tests, 1983, 1984, and 1985

Type of School	Third-Grade Reading			Third-Grade Mathematics			Fifth-Grade Writing			Sixth-Grade Reading			Sixth-Grade Mathematics		
	1983	1984	1985	1983	1984	1985	1983	1984	1985	1983	1984	1985	1983	1984	1985
Public															
New York City	54%	54%	54%	58%	58%	59%	75%	74%	76%	54%	54%	53%	54%	53%	54%
Large City	64	67	69	72	74	77	71	78	78	63	63	67	68	69	72
Small City	79	80	82	[illegible]	83	87	79	83	85	76	78	80	75	78	81
Village-Suburban	86	87	88	88	90	91	83	88	89	84	85	86	83	85	88
Rural	84	86	88	86	88	90	82	86	87	83	84	86	82	84	86
Total Public	73	74	74	76	77	78	79	82	83	73	73	73	73	73	74
Nonpublic															
New York City	78	79	79	76	77	79	82	83	85	80	80	81	76	78	78
Other	89	88	90	88	88	89	88	89	91	88	87	89	86	87	88
Total Nonpublic	83	83	84	82	82	84	85	86	88	84	84	84	81	82	82
COMBINED TOTAL	75%	76%	76%	77%	78%	79%	80%	83%	84%	75%	75%	75%	74%	74%	76%

ondary education. They define important outcomes of instruction and help motivate pupil achievement.

The examinations are developed by classroom teachers in cooperation with the Department's subject and examination specialists. Each examination is based on a Department syllabus.

Table 2 lists the examinations provided in June 1985 and indicates, for each examination, the number of papers written and the

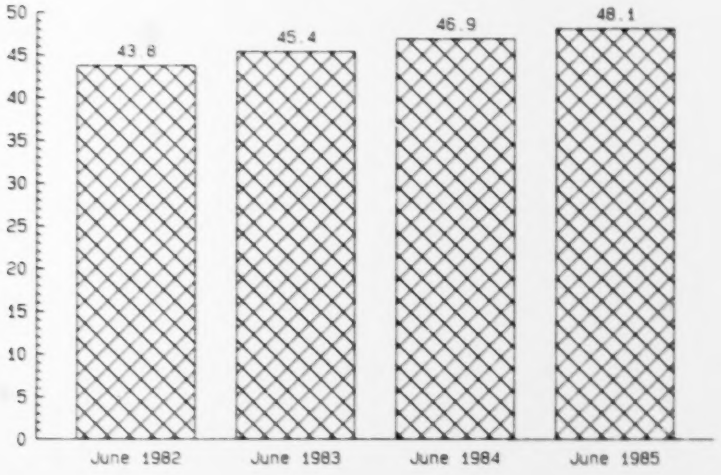
Table 2: Number of Papers Written and Percent Passing for the June 1985 Regents Examinations

Subject	Number of Papers Written	Percent Passing
Business Subjects		
Bookkeeping and accounting II	21,660	72.6%
Business law	11,908	82.5
Business mathematics	15,653	79.5
English		
Comprehensive English	118,521	84.6
Foreign Languages		
Comprehensive French	19,905	93.4
Comprehensive German	2,972	92.8
Comprehensive Hebrew	2,045	93.6
Comprehensive Italian	4,178	87.1
Comprehensive Latin	2,540	89.4
Comprehensive Spanish	37,427	90.4
Mathematics		
Ninth year mathematics	43,494	78.9
Tenth year mathematics	52,363	74.3
Eleventh year mathematics	48,129	76.5
Sequential math, course I	96,674	76.8
Sequential math, course II	51,568	82.4
Sequential math, course III	28,226	81.7
Science		
Biology	109,521	81.2
Chemistry	71,086	81.5
Earth science	38,898	83.4
Physics	38,696	85.6
Social Studies		
Comprehensive social studies	111,429	77.8
June Totals	926,893	80.9%

percent of papers that received passing marks. Overall, 80.9 percent of the papers written were passing papers.

Figure 1 illustrates the percentages of high school graduates awarded Regents diplomas during the past four years. Of the students graduating from high school in June 1985, 48.1 percent were awarded Regents diplomas. The percentage awarded Regents diplomas has increased steadily during the past four years.

Figure 1: Percent of High School Graduates Awarded Regents Diplomas



Regents Competency Tests

The Regents Competency Testing Program was established to assure that all pupils receiving high school diplomas have the reading, writing and mathematics skills needed for employment and postsecondary education. About one-half of the pupils graduating from high school each year demonstrate mastery of the basic skills by passing Regents examinations in English and mathematics. The other half take the Regents competency tests in reading, writing and mathematics.

The reading test is a Degrees of Reading Power test, as are the preliminary competency reading test and the third- and sixth-grade Pupil Evaluation Program reading tests. Degrees of Reading Power (DRP) tests indicate the most difficult prose that a pupil can read with comprehension. They are criterion-referenced tests, and their pass marks are related to the readability of textbooks used at designated grade levels.

The writing test is a direct measure of a pupil's ability to organize and present ideas in written form. The test consists of three different types of writing tasks: a business letter, a report, and a composition. In the scoring of the test, each answer is rated on the basis of its total effect and overall quality.

The mathematics test is designed to measure competency in the skills described in the syllabus, "General High School Mathematics." This is the recommended high school mathematics curriculum for pupils not enrolled in Regents mathematics courses. The test questions cover the core areas of: integers and rational numbers, including the fundamental operations of addition, subtraction, multiplication, and division of whole numbers, decimals, and fractions; graphing, including critical analysis and interpretation of graphs and charts; measurement of geometric figures; ratio, proportion, and percent; probability and statistics; and consumer job-related mathematics.

Pupils take the Regents competency test in mathematics when they complete the prescribed course. For the vast majority of students, the test is taken initially at the end of grade nine. The reading and writing tests are intended to assess skills acquired during the high school years, and the tests may not be taken prior to the eleventh grade. Hence, most students take these tests initially in January of their junior year. Table 3 shows the results for these major administrations during the 1984-85 school year.

The mathematics test proved to be the most challenging. Only 68.6 pecent of about 97,000 ninth-grade pupils passed the mathematics test in June 1985. Approximately 95,000 juniors took the reading and writing tests in January 1985; 91.3 percent passed the reading test, and 82.2 percent passed the writing test. Under the Commissioner's Regulations, pupils failing any competency test must be provided appropriate remediation.

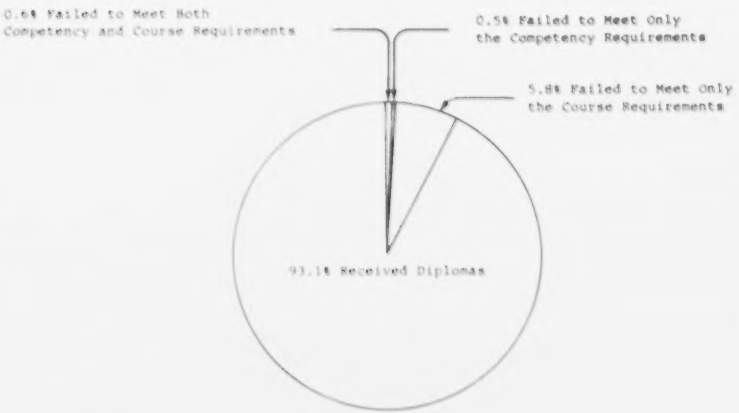
The competency testing requirement prevented few pupils from receiving high school diplomas in June 1985. Of the candidates for graduation in June 1985, 98.9 percent met the competency testing

Table 3: Number of Papers Written and Percent Passing for the Major Administrations of the Regents Competency Tests in 1985

Competency Test	Grade	Number of Papers Written	Percent Passing
January 1985			
Reading	11	93,112	91.3%
Writing	11	95,232	82.2
June 1985			
Reading	11	17,975	67.0
Writing	11	23,911	68.2
Mathematics	9	97,090	68.6

requirements. As illustrated in Figure 2, only 0.5 percent of the candidates failed to graduate solely because of the competency testing requirements. Another 0.6 percent failed to meet the competency testing requirements but also failed to meet course requirements. In all, only about 2,000 of the 190,000 diploma candidates failed to attain the standards in all three basic skills.

Figure 2: Candidates for High School Diplomas in June 1985


0.6% Failed to Meet Both Competency and Course Requirements
0.5% Failed to Meet Only the Competency Requirements
5.8% Failed to Meet Only the Course Requirements
93.1% Received Diplomas

National Programs

Concurrent Assessment in Reading

During the 1983-84 school year, the Department carried out a concurrent assessment with the National Assessment of Educational Progress (NAEP). The purpose of the project was to examine how the achievement in reading and writing of students in New York State in grades 4, 8, and 11, ages 9, 13, and 17, compares with the achievement of students nationwide.

As a means of making the comparisons, selected NAEP reading and writing exercises were administered to a random sample of nearly 20,000 fourth, eighth and eleventh grade New York State students in 179 schools at the same time that these exercises were being administered to approximately 100,000 fourth, eighth, and eleventh graders nationwide. During September 1985, NAEP released the national data for reading, and the results for the concurrent assessment in reading are summarized below.

The number and percent of multiple-choice and open-ended NAEP reading exercises selected for administration in New York State schools varied from grade to grade. A total of 96.6% of the national exercises were administered to fourth graders, 87.3% to eighth graders, and 93.6% to eleventh graders. Overall, 92.4% of the NAEP exercises were used in the New York State concurrent assessment.

The reading exercises were classified into three categories: literal comprehension, inferential comprehension, and reference skills. Based on NAEP categorization, literal comprehension includes questions that require locating or remembering a single fact, incident or idea presented in the reading material. Inferential comprehension requires using the explicit information in a passage as well as personal experience to understand information and ideas. Reference skills enable students to find and use resource materials.

Multiple-Choice Questions

Table 4 shows, for New York State and the nation, the mean percent of each type of exercise answered correctly at each age level.

As indicated in the table, New York State students did better than students in the national sample on all types of questions with

Table 4: New York State and National Mean Percent Correct by Type of Exercise and Age of Student

Type of Exercise	Age 9		Age 13		Age 17	
	NYS	Nation	NYS	Nation	NYS	Nation
Literal Comprehension	71.9	66.2	75.8	73.1	83.2	80.2
Inferential Comprehension	64.8	57.9	74.5	71.1	80.2	76.5
Reference Skills	70.6	67.2	66.2	66.7	80.9	78.9
Combined	67.4	61.5	72.8	70.6	81.4	78.4

the exception of 13-year-olds on the reference skills. All students, except for the nine-year-olds in the national sample, performed best on the literal comprehension questions. The differences are illustrated in Figures 3, 4, and 5.

To get an indication of how students' reading abilities change from grade to grade, a group of 22 items was administered to fourth,

Figure 3

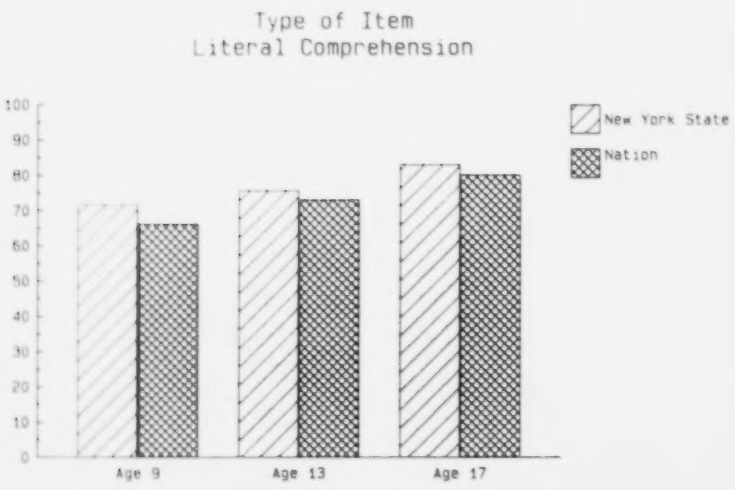


Figure 4

Type of Item
Inferential Comprehension

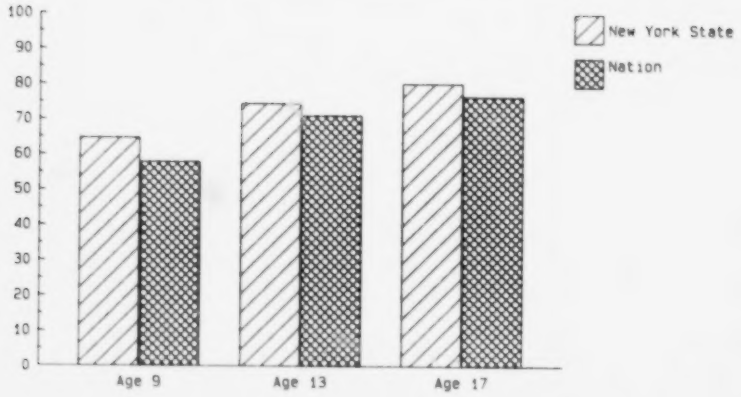
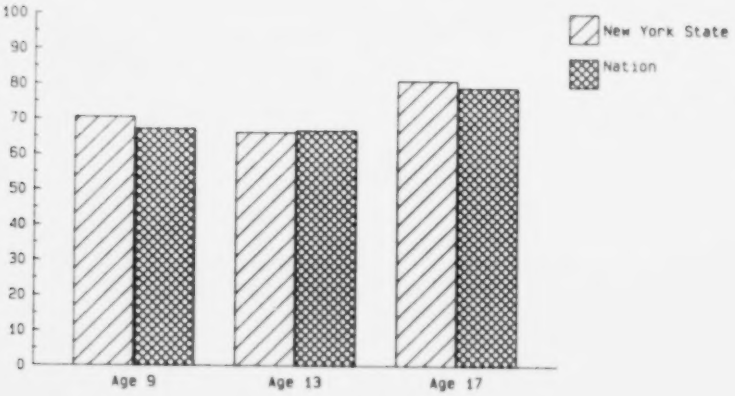


Figure 5

Type of Item
Reference Skills



eighth and eleventh graders. Table 5 shows the mean percent correct for New York State students and the national sample on the common items.

Table 5: New York State and National Mean Percent Correct on 22 Common Items by Type of Exercise and Grade Level of Student

Type of Exercise	Grade 4		Grade 8		Grade 11		Combined	
	NYS	Nation	NYS	Nation	NYS	Nation	NYS	Nation
Literal Comprehension (10 Items)	44.1	40.1	60.2	57.4	71.2	67.5	58.5	55.0
Inferential Comprehension (10 Items)	44.5	38.4	66.0	61.6	80.0	74.2	63.5	58.1
Reference Skills (2 Items)	60.7	58.7	83.9	85.1	94.1	92.3	79.6	78.7
Combined (22 Items)	45.8	41.0	65.0	61.3	77.3	72.8	62.7	58.5

As expected, students at each successive grade level achieved better results than those in lower grades. Again, when grade level rather than age was considered, New York State students outperformed the national sample.

Open-Ended Questions

The multiple-choice questions measured the students' ability to read for specific information or general understanding, whereas the open-ended questions measured the students' ability to provide written substantiations of their interpretation or evaluations of passages. Responses to the open-ended tasks were evaluated by NAEP raters using scoring guides that focused on the reader's ability to substantiate conclusions about what had been read. The raters categorized papers as to degree of success in accomplishing the required writing task. Guides used by NAEP are tailored to each task and usually specify 4-6 levels of success, with a score of 1 representing unsatisfactory performance and a score of 4 or 6 representing detailed and controlled performance.

A total of 23 of the 28 NAEP open-ended questions were used, and New York State students had generally better results than students in the national sample on each exercise.

Scholastic Aptitude Tests

As part of its Admissions Testing Program, the College Entrance Examination Board administers Scholastic Aptitude Tests (SAT's) to about one million college-bound seniors each year. SAT scores are used by many colleges to assist them in selecting candidates for admission.

There are two SAT's, a verbal test and a mathematical test. The verbal test measures vocabulary and reading comprehension skills. The mathematical test measures the ability to solve problems involving arithmetic reasoning, algebra, and geometry. The abilities measured by both tests are developed over years of study and use, both in and out of school.

Figures 6 and 7 illustrate the trends in SAT scores over the past seven years. During this period, both the State and national averages started upward, ending an extended period of decline. During the past seven years, New York's average score on each test has been within five points of the national average score. This average difference is extremely small in comparison to the range of state averages, which is about 150 points.

New York's average scores for 1985 were higher than the 1984 scores but lower than the national averages. On the verbal test, New York's average score increased from 424 to 427; the national average score was 431. On the mathematical test, New York's average score increased from 470 to 473; the national average score was 475.

However, the percent of seniors taking the SAT's in New York State was almost twice the national average. New York's 130,000 examinees comprised 62 percent of the senior class, the fourth highest percentage among the states. Nationwide, only 33 percent of the seniors were tested. Thus, the average SAT scores earned by virtually all college-bound seniors in New York were about the same as those earned by a select group of college-bound seniors nationwide.

Figure 6: New York State and National Average Scores on the SAT-Verbal, 1979-1985

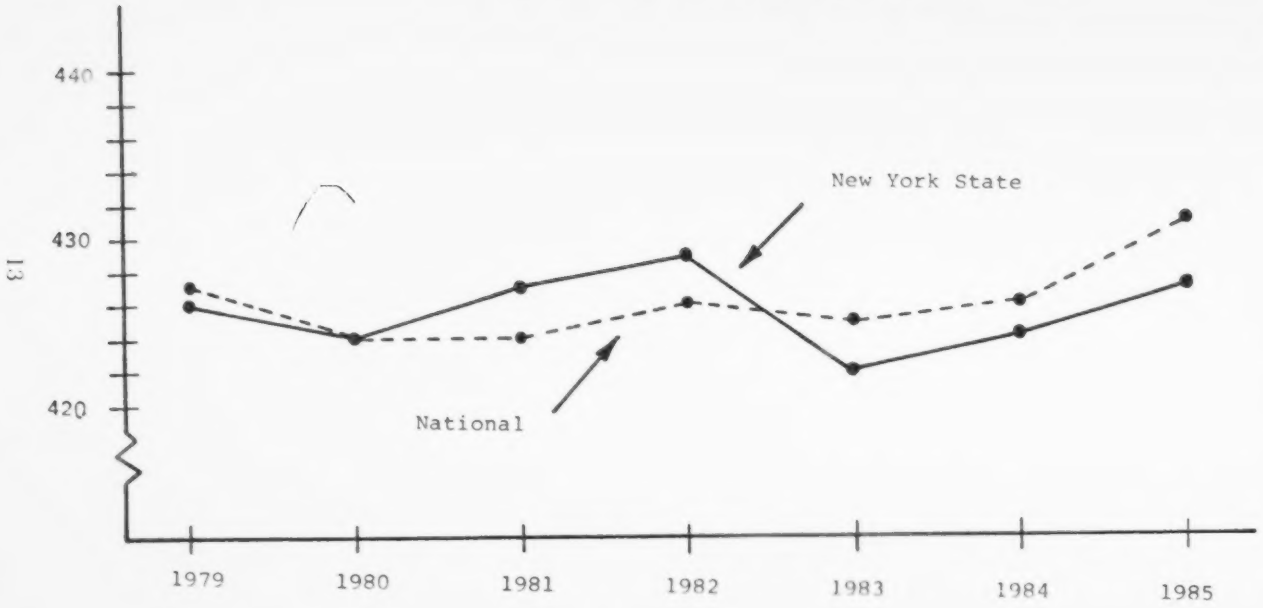
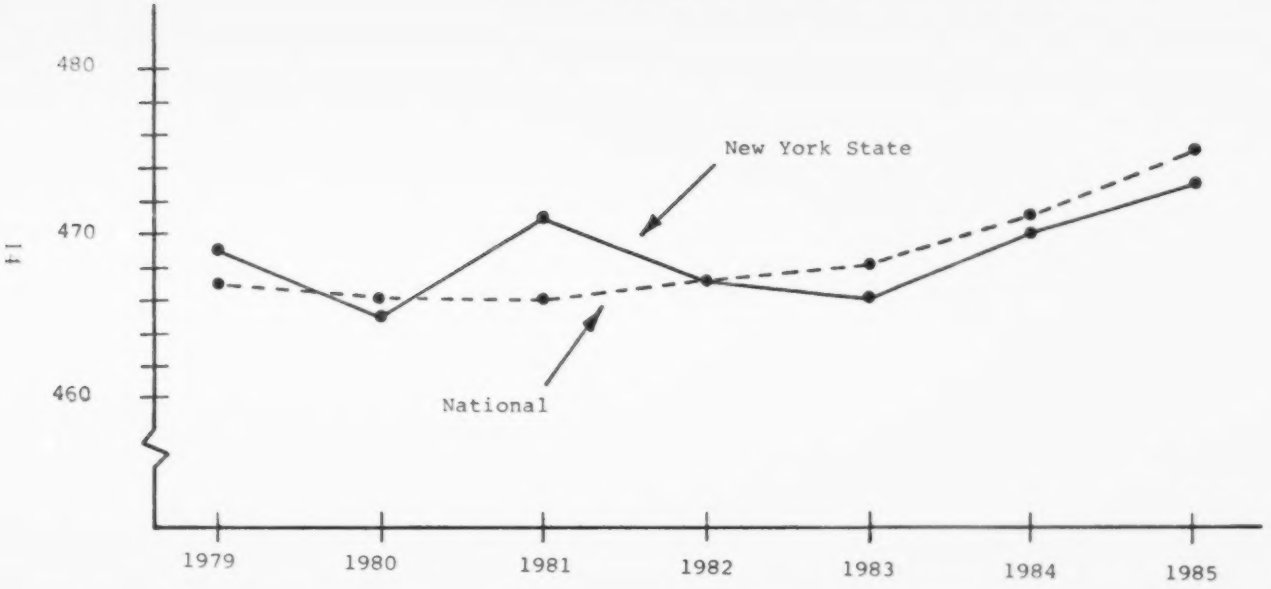


Figure 7: New York State and National Average Scores on the SAT-Mathematical, 1979-1985



New York State and national SAT average scores are summarized in Table 6.

Table 6: Comparison of New York State and National Averages on the Scholastic Aptitude Test (SAT)

Test	New York State		National	
	1984	1985	1984	1985
Verbal	424	427	426	431
Mathematical	470	473	471	475

College Board Achievement Tests

The College Board's Admissions Testing Program also includes achievement tests, which are required by some colleges to supplement the SAT's. The achievement tests are rigorous tests and are offered in 14 different subject areas.

New York State students have always performed extremely well on the achievement tests, and 1985 was no exception. Table 7 indicates that the average score earned by New York's college-bound

Table 7: Comparison of New York State and National Averages on College Board Achievement Tests, 1985

Achievement Tests	Number Written in New York	Average Score		
		New York	National	Difference
English Composition	24,509	530	523	+ 7
Mathematics Level 1	20,591	571	540	+31
Biology	12,328	591	554	+37
Chemistry	6,975	605	576	+29
American History	4,823	554	525	+29
Mathematics Level 2	3,749	674	658	+16
Spanish	3,216	556	538	+18
French	2,731	564	547	+17
Physics	2,384	612	592	+20
Literature	2,257	537	523	+14
European History	417	552	540	+12
German	275	590	571	+19
Hebrew	178	645	622	+23
Latin	167	583	553	+30
All Tests Combined	81,620	558	540	+18

seniors on all tests combined was 18 points higher than the national average. New York's advantage ranged from 37 points in biology to 7 points in English composition.

Other Programs

While the College Board's Admissions Testing Program allows comparisons only with a national average, which includes New York's scores, there are three nationwide programs in which New York can be compared directly with each of the other states. They are the Advanced Placement Program, the National Merit Scholarship Program, and the Westinghouse Science Talent Search.

The Advanced Placement Program of the College Board consists of courses of study and examinations in 13 disciplines through which high school pupils may earn college credit and placement at approximately 2,000 postsecondary institutions throughout the country. About 206,000 pupils nationwide participated in this program last year.

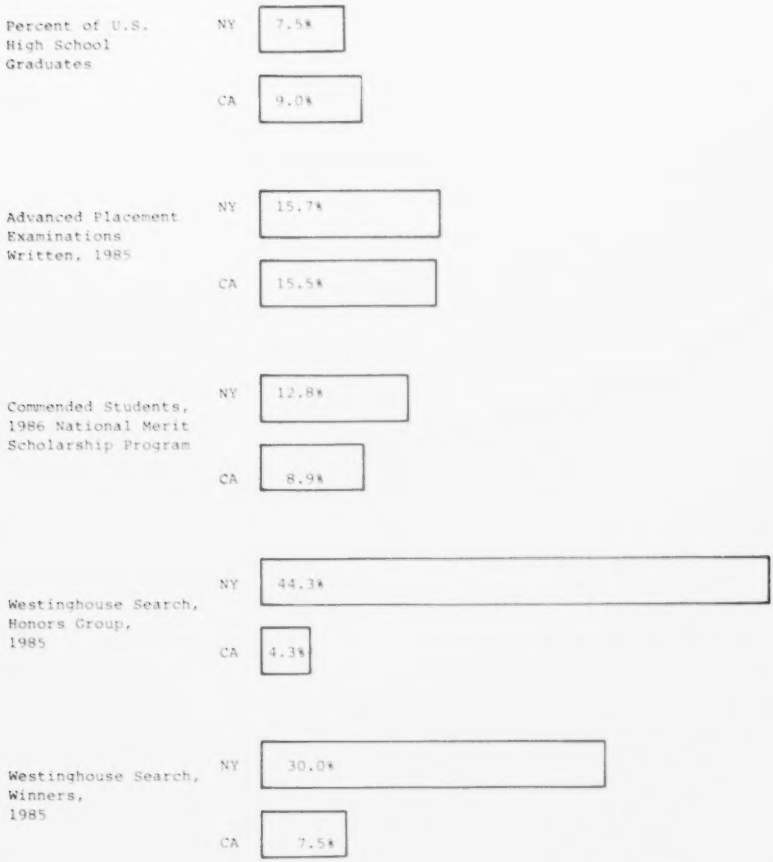
The National Merit Scholarship Program is the nation's largest independently financed competition for college undergraduate scholarships. Each year more than one million pupils take the Preliminary Scholastic Aptitude Test/National Merit Scholarship Qualifying Test to enter the scholarship competition. About 35,000 are commended for their performance and 15,000 are named Semifinalists.

The Westinghouse Science Talent Search is an endeavor to discover among high school seniors those who have the potential to become the research scientists and engineers of the future. The competition involves the judging of entries submitted by about 1,000 contestants. Winners of this competition, as well as those in the Honors Group, are frequently offered scholarships by colleges and universities.

New York State consistently holds a preeminent position in these three national programs. The most recent results are illustrated in Figure 8, which compares New York State pupils with pupils from California, a state of comparable size.

Although New York had a smaller percentage of the nation's high school graduates – 7.5 percent as opposed to California's 9.0 percent – New York had a higher percentage of pupils on each significant indicator of quality.

Figure 8: Advanced Placement, National Merit, and Westinghouse Science Talent Search: New York and California Compared



- Advanced Placement: New York pupils wrote 15.7 percent of the Advanced Placement examinations written nationally; California pupils wrote 15.5 percent.
- National Merit: New York had 12.8 percent of the Commended Students; California had 8.9 percent.
- Westinghouse: New York pupils comprised 44.3 percent of the Honors Group and 30.0 percent of the winners; California's pupils made up only 4.3 percent of the Honors Group and 7.5 percent of the winners.

Conclusion

During the 1984-85 school year, New York State's elementary and secondary school students demonstrated high achievement on all available indicators. In the concurrent assessment in reading, completed in cooperation with the National Assessment staff, New York State pupils exceeded their national counterparts at every age and grade level and in almost every type of reading activity. The Pupil Evaluation Program results for the past three years showed gains in third-grade reading and mathematics, in fifth-grade writing, and in sixth-grade mathematics. The percentage of students meeting the competency testing requirements for a high school diploma remained high, and the percentage of graduates receiving Regents diplomas increased over the preceding year.

New York State students compared very favorably with their peers in other states. They led the nation in the Westinghouse Science Talent Search and in the number of Advanced Placement examinations written. They did extremely well in the National Merit Scholarship Competition, and they scored well-above the national average on all College Board achievement tests. Their Scholastic Aptitude Test scores improved and remained close to the national average despite the high proportion of seniors tested.